

Notice of Allowability

Application No.

09/603,409

Examiner

(Jackie) Tan-Uyen T. Ho

Applicant(s)

HOYNS, DIRK V.

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/15/04.
 2. ☒ The allowed claim(s) is/are 1-28, 35-39 and 44-47.
 3. ☐ The drawings filed on _____ are accepted by the Examiner.
 4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20040520.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

(Jackie) Tan-Uyen T. Ho
Patent Examiner
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EXAMINER'S AMENDMENT

1. Claims 1 and 23 generic and allowable. Accordingly, the restriction requirement as to the encompassed species is hereby withdrawn and claims 6, 14, 15, 24 and 25, no longer withdrawn from consideration since all of the claims to the species depend from or otherwise include each of the limitations of an allowed generic claim.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Arthur Z. Bookstein on 5/19/2004 and 5/21/2004.

The application has been amended as follows:

Claims 29-34, 40-43 and 48 have been cancelled.

Claims 1-6, 8, 9, 12, 23-25, 35-38 and 44-46 are replaced as follows:

Claim 1. A radially expandable intraluminal stent in the form of a generally tubular wall having open regions that define wall structure comprising: a plurality of nodes, each node having a central hub and only three arms extending from the hub, each arm being curved and circumscribing the hub and a segment of an adjacent arm of that node; each arm being connected, at a transition region, only to a single arm of an adjacent node, the connected arms of adjacent nodes defining an S-shaped link between those nodes.

Claim 2. A radially expandable intraluminal stent in the form of a generally tubular wall having open regions that define wall structure comprising: a plurality of nodes, each node having a central hub and only three arms extending from the hub, each arm having a root and being curved and circumscribing the hub and a segment of an adjacent arm of that node and lying closely adjacent the segment; each arm being connected, at a transition region only to a single arm of an adjacent node, the connected arms of the adjacent nodes defining a link between those nodes, the link extending from the root of one of the connected arms to the root of the other, wherein the link curves in one direction from one root to the transition region and in an opposite direction from the transition region to the other root.

Claim 3. A stent as defined in claim 1 wherein the portion of each arm that circumscribes the segment of the adjacent arm of that node lying closely adjacent the segment.

Claim 4. A stent as defined in claim 1 wherein nodes are arranged in hexagonal clusters.

Claim 5. A stent as defined in claim 4 wherein the hexagonal clusters are oriented so that none of adjacent pairs of nodes in the clusters is aligned in a direction that parallels the longitudinal axis of the stent.

Claim 6. A stent as defined in claim 4 wherein the hexagonal clusters are oriented so that none of adjacent pairs of nodes in the clusters is aligned in a circumferential direction of the stent.

Claim 8. A stent as defined in claim 7 wherein a gap between adjacent arms of the spiral is of substantially constant width up to the transition region.

Claim 9. A stent as defined in claim 1 wherein each of the arms of a node is connected at a root to the hub of the node and wherein the roots are equiangularly spaced about the hub.

Claim 12. A stent as defined in claim 11 wherein links between the nodes of said connected pairs thereof lie along the radial planes and extend in a circumferential direction of the stent.

Claim 23. In a radially expandable tubular intraluminal stent defined by and having a plurality of interconnected members deformable to a larger diameter tubular configuration, the improvement comprising a plurality of nodes, each defined by a central hub and only three arms, each of the arms in each of the nodes being curved and having a portion that circumscribes the hub and a segment of an adjacent arm of that node and lies closely adjacent the segment, the stent being defined substantially entirely by said nodes, each arm being

curved and being connected at a transition region to a single arm of an adjacent node, the connected arms of adjacent nodes defining an S-shaped link between those nodes.

Claim 24. A stent as defined in claim 23 wherein nodes are arranged in general alignment along a plurality of helically extending rows, two of the arms of each node being connected serially to adjacent nodes along its associated helical row, the third arm of the node being connected to a node that lies along an adjacent helical row.

Claim 25. A stent as defined in claim 24 wherein the third arm of succeeding nodes lying along a helical row are connected to nodes in alternately adjacent helical rows.

Claim 35. A radially expandable intraluminal stent in the form of a generally tubular wall having cut out regions that define wall structure comprising: a plurality of nodes, each node being connected only to three adjacent nodes, each by an individual generally S-shaped link, some of which are circumferentially oriented; the links and nodes being arranged so that when the stent is expanded from its initial diameter to an expanded diameter, circumferentially oriented links will elongate to a greater degree than links oriented in a less circumferential direction.

Claim 36. In a radially expandable tubular stent having a wall defined by and having a plurality of interconnected links deformable from a low profile diameter to an expanded diameter, the improvement comprising a plurality of nodes, each node having a central hub and only three arms extending from and circumscribing the hub and a segment of an adjacent arm of that node, the arms being of sufficient length to flex to permit the central hub to be displaced transversely with respect to those regions of the stent wall that surround the transversely displaced hub, each of the arms being connected to an arm of an adjacent node to define an S-shaped link.

Claim 37. A stent as defined in claim 1 further comprising clusters, each cluster being formed from six nodes.

Claim 38. A stent as defined in claim 1 further comprising the nodes being arranged in clusters of six, two arms of each node are connected to the nodes of a same cluster and one arm of each of the nodes in that cluster is connected to a node of another cluster.

Claim 44. A radially expandable intraluminal stent in the form of a generally tubular wall having open regions that define wall structure comprising: a plurality of nodes, each node having a central hub and only three arms extending from the hub, each arm circumscribing the hub and a segment of an adjacent arm of

that node and lying closely adjacent the segment; each arm being connected, at a transition region, only to one arm of an adjacent node, the connected arms of the adjacent nodes defining an S-shaped link between those nodes.

Claim 45. A radially expandable intraluminal stent in the form of a generally tubular wall having open regions that define wall structure comprising: a plurality of nodes, each node having a central hub and only three arms extending from the hub, each arm circumscribing the hub and a segment of an adjacent arm of that node; each arm being connected, at a transition region, to an arm of an adjacent node, the connected arms of the adjacent nodes defining a substantially continuously curving S-shaped link between those nodes.

Claim 46. A radially expandable intraluminal stent in the form of a generally tubular wall having open regions that define wall structure comprising: a plurality of nodes, each node having a central hub and only three arms extending from the hub, each arm circumscribing the hub and a segment of an adjacent arm of that node and defining a gap between the adjacent arm; each arm being connected, at a transition region, to an arm of an adjacent node, the connected arms of the adjacent nodes defining an S-shaped link between those nodes; the gap being of substantially constant width up to the transition region.

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3. Claims 1-28, 35-39 and 44-47 are allowed.

4. The following is an examiner's statement of reasons for allowance: Claims 1, 3-28, 35-39, 44-47 are allowed because the prior art fails to disclose a stent including in combination with other limitations of the claims, an S-shaped link between nodes. In regard to claim 2, the prior art fails to disclose a stent including in combination with other limitations of the claim, a link curving in one direction from one root to a transition region and in an opposite direction from the transition region to another root.

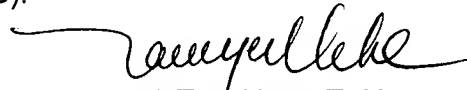
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Jackie) Tan-Uyen T. Ho whose telephone number is (703) 306-3421. The examiner can normally be reached on MULTIFLEX Mon. to Sat..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, McDermott or Shaver can be reached on 703-308-0858. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



(Jackie) Tan-Uyen T. Ho
Patent Examiner
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